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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,338	10/14/2005	Sergei Turitsyn	16085.12	2069

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EXAMINER	
LE, THI Q	

ART UNIT	PAPER NUMBER
2613	

MAIL DATE	DELIVERY MODE
02/19/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/553,338	TURITSYN ET AL.	
	Examiner	Art Unit	
	Thi Q. Le	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 October 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1 and 3-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 October 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/14/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 10/14/2005 was considered by the examiner.

Drawings

3. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office Action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended". If a drawing figure is to be canceled, the appropriate figure

must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the Examiner, the Applicant will be notified and informed of any required corrective action in the next Office Action. If a response to the present Office Action fails to include proper drawing corrections, corrected drawings or arguments therefor, the response can be held **NON-RESPONSIVE** and/or the application could be **ABANDONED** since the objections/corrections to the drawings are no longer held in abeyance.

Claim Objections

5. **Claims 5, 7-9** are objected to under 37 CFR 1.75(c) as being in improper form because claim 5 recites "a method according to any preceding claim"; and claims 7-9 is improper because they "reference back to another multiple dependent claim". See MPEP § 608.01(n). Accordingly, the claims 5, 7-9 not been further treated on the merits.

6. **Claim 4** is objected to because of the following informalities:

- claim 4 is dependent upon canceled claim 2.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. **Claims 1** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Bulow (US PGPub 2003/0165341).**

Consider **claims 1 and 6**, Bulow discloses, a transmitter for producing an optical data signal for transmission over a wavelength division multiplexer optical communication system

comprising: a filter having a spectral profile giving rise to pulses with a temporal profile extending over more than one time slot, the temporal profile having a minimum substantially in the center of each of the time slots adjacent to the time slot for that pulse (figure 2a shows a conversion filter CF, which is configured to broaden the RZ like pulses out from OTDM unit; such broaden of the pulses produces, as shown in figure 4c, a temporal profile having the minimum substantially in the center of each of the time slots adjacent to the time slot for that pulse; paragraphs 0027, 0040). Bulow fails to specifically discloses, means for producing a periodic series of optical pulses defining a series of time slots, wherein one pulse appears in each time slot; and modulating means for modulating the pulses with data for transmission.

However, Bulow described that that in a conventional OTDM system, an optical transmitter includes a pulsed laser source for producing a pulsed optical signal; and a modulator for modulating the pulsed optical signal with data signal (paragraph 0025). Thus, it would have been obvious to a person of ordinary skill in the art that signal arriving at the OTDM unit, shown in figure 2a, is a modulated pulses optical signal.

Consider **claim 3, and as applied to claim 1 above**, Bulow further discloses, wherein the filtered carrier pulses have a substantially flat top spectral profile (figure 2a shows a conversion filter CF, which produces pulses with substantially flat top spectral profile; figure 4b, paragraphs 0027, 0039).

Consider **claim 5, as applied to any one of preceding claims,** Bulow further discloses wherein the step of modulating the pulses with data is performed before the filtering step (as discussed in paragraph 0025; pulsed optical signal is modulated before it OTDM unit then to conversion filter CF, shown in figure 2a).

Consider **claim 7, and as applied to either claim 6 above**, Bulow further discloses, wherein the filter has a substantially flat top spectral profile (figure 2a shows a conversion filter CF, which produces pulses with substantially flat top spectral profile; figure 4b, paragraphs 0027, 0039).

11. **Claims 4** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Bulow (US PGPub 2003/0165341)** in view of **Nakajima et al. (US PGPub 2001/0019436)**.

Consider **claim 4, and as applied to claim 1 above**, Bulow discloses the invention as described above, except for, wherein the filter is detuned to optimize transmission performance.

In related art, Nakajima discloses a method and apparatus for controlling an optical tunable filter for optimizing optical transmission. A WDM optical communication system includes a transmitter end 11b and a receiver end 12b; and a optical tunable filter 23 is placed in the transmitting fiber 32. The system further includes measurement means 71 for measuring BER and controlling means 61 for controlling the optical tunable filter 23 based on the measured BER; wherein optical tunable filter is controlled such that optical transmission characteristic is optimized (figures 3, 6, 15 paragraphs 0098-0099, 0148).

It would have been obvious for a person of ordinary skill in the art at the time of the invention to incorporate the teachings of Nakajima with Bulow. Since using an optical tunable filter can improve the transmission characteristic; thus decreasing the BER.

Consider **claim 8, and as applied to either claim 6 above**, Bulow modified by Nakajima further discloses, wherein the filter is detuned to optimize transmission performance (Nakajima discloses in figures 3, 6, 15, an optical transmission system includes measurement means 71 for measuring BER and controlling means 61 for controlling the optical tunable filter 23 based on

the measured BER; wherein optical tunable filter is controlled such that optical transmission characteristic is optimized; paragraphs 0098-0099, 0148).

Consider **claim 9, and as applied to either claim 7 above**, Bulow modified by Nakajima further discloses, control means for optically detuning the optical filter in order to optimize transmission performance (Nakajima discloses in figures 3, 6, 15, an optical transmission system includes measurement means 71 for measuring BER and controlling means 61 for controlling the optical tunable filter 23 based on the measured BER; wherein optical tunable filter is controlled such that optical transmission characteristic is optimized; paragraphs 0098-0099, 0148).

Conclusion

12. Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed to**:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

13. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Thi Le whose telephone number is (571) 270-1104. The Examiner can normally be reached on Monday-Friday from 7:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Thi Le

KENNETH VANDERPUYE
SUPERVISORY PATENT EXAMINER